

As Boomers Slow Down, So Might the Economy

*Kevin L. Kliesen**

On Jan. 1, 2008, the first members of the baby boom generation will turn 62 and, thus, become eligible for some retirement benefits from the federal government. Countless studies have tried to estimate the fiscal implications of the pending retirement of this generation. Perhaps less known to the public are the implications for U.S. labor markets and, thus, the future growth rates of real GDP. Using a standard growth accounting framework, the aging of the U.S. population suggests weaker growth of real GDP going forward. Whether this occurs will depend crucially on future trends in labor productivity growth and, to a lesser extent, the evolving trend in the labor force participation rate.

The Economics of Growth Accounting

Economic theory holds that, in the long run, an economy's growth rate depends on factors such as population growth, saving and investment rates, technology, tax and regulatory policies, and consumer preferences for work and leisure.¹ To gauge an economy's potential for growth over longer periods of time, which implicitly takes into account these factors, economists sometimes employ a growth accounting framework. A simplified version of this framework is published each year in the Economic Report of the President. The growth accounting framework projects the percentage change in real GDP by adding up estimates of the percentage changes in: the adult population (those aged 16 and over), the participation rate of the working age population (ages 25 to 64) and aggregate labor productivity (GDP per worker).² Using conventional demographic assumptions that predict a significant reduction in the participation rate, the growth accounting framework shows that real GDP growth could slow dramatically in coming decades.

Population Growth

Currently, the Census Bureau projects that the annualized growth of the adult population will slow from a rate of 1.9 percent per year from 1970 to 2006, to 0.9 percent per year from 2007 to 2017, and then 0.8 percent per year from 2018 to 2028.³ From this starting point, one can begin to get a sense of effects of the retirement of the baby boom generation by looking at the projected growth of the working age population over the next 10 to 20 years. According to the Census Bureau, growth of the working age population averaged about 2.25 percent per year from 1970 to 2006. However, over the next decade, its growth is slated to drop sharply. Between 2007 and 2017, growth is projected to average just 0.65 percent per year; from 2018 to 2028, growth is expected to average only 0.12 percent per year. At the same time, growth of the population age 65 and older is projected to accelerate, averaging 2.8 percent per year from 2007 to 2017 and by nearly 3 percent per year from 2018 to 2028.

Labor Force Participation Rates

The labor force participation rate is the percentage of the population 16 and older that is either employed or is actively seeking employment. Beginning in the early 1960s, the U.S. participation rate began to trend upward. From 1964 to 1997, the total participation rate rose from 58.7 percent to 67.1 percent, or by an average of 0.25 percentage points per year. An increasing percentage of women entering the labor force was a key factor in this increase. However, higher labor force participation rates did not materially boost aggregate growth over most of this period because of a sharp deceleration in labor productivity growth from about 1973 to about 1995. Since the late 1990s, though, the U.S. labor force participation

* This article originally appeared in *The Regional Economist*, July 2007. Opinions expressed in this article are those of the authors and do not necessarily reflect the views of the management of the Federal Reserve Bank of St. Louis or the Board of Governors of the Federal Reserve System.

rate has declined slightly, to 66 percent, but this effect has been more than offset by a reacceleration in labor productivity growth since about 1995.

A second factor that explained the upward trend in the aggregate labor force participation rate until the late 1990s was the aging of the population.⁴ For example, the working age population as a percentage of the total resident population rose from 44 percent in the late 1960s/early 1970s to about 53 percent by last year. It is projected to remain at that level until 2011 and then begin to fall to about 47 percent by 2050.

With growth of the retiree population increasing and the growth of the working age population decreasing, the labor force participation rate will probably trend lower. In their 2007 report, the trustees of the Social Security Administration (SSA) estimate that the participation rate will steadily decline to a little more than 59 percent by 2081.⁵ Some developments could prevent this from occurring. First, an increasing percentage of the working age population must enter the labor force. Second, the baby boomers must either postpone retirement or continue to work part time. Third, the participation rates of women must resume their upward trend.

But these events are unlikely, for the following considerations.⁶ First, the participation rates of women, particularly those who are married and with children, have declined in recent years. Second, a larger percentage of teens and young adults are attending post-secondary schools and staying in school longer. Finally, health and mortality considerations will eventually limit the participation rates of elderly baby boomers.

Productivity Growth

Productivity plays a crucial role in the growth accounting framework. In the long run, a nation's real GDP growth rate depends crucially on the growth of output per hour (productivity). The most common measure of labor productivity is output per hour in the nonfarm business sector. After increasing by an average of 1.4 percent per year from 1973 to 1994, the nation's labor productivity growth rate began to accelerate beginning around 1995. From 1995 to 2006, labor productivity increased at an average annual rate of 2.7 percent. By most accounts, this acceleration stemmed from innovations in information and communication technology equipment.⁷ Recently, however, labor productivity growth has decelerated sharply, from 4.1 percent in 2002 to only 1.6 percent in 2006; last year's increase was the smallest since 1997. The steady slowing in labor productivity growth is unsettling and perhaps raises questions about its underlying strength. However, the most recent Survey of Professional Forecasters projects that labor productivity growth will increase by an average of 2.2 percent per year over the next 10 years.⁸

Adding It Up

As shown in the table, the growth accounting framework projects that real GDP growth will slow from an average of 3 percent per year from 1990-2006 to 2.5 percent per year from 2007-2017 and then to 2.2 percent per year from 2018-2028.⁹ These estimates are based on the census population projections and the SSA labor force participation rate projections noted earlier, along with the assumption that the rate of aggregate productivity growth will remain at its 1990-2006 average.

It is apparent that faster aggregate productivity growth can also mitigate the projected slowing in real GDP growth. However, there are several factors that could prevent this from occurring. First, productivity growth may slow, as older, more experienced workers are replaced with younger, less experienced workers. Second, if tax rates are increased to address the looming fiscal crisis stemming from the retirement of the baby boomers, then capital spending (investment) by firms might drop, putting a brake on productivity growth. A related effect could occur if taxes or regulations are

Accounting for Annual Growth, 1990 to 2028

Percent changes, annual rate per year

	1990-2006	2007-2017	2018-2028
Population	1.24	0.91	0.83
+ LFP rate	-0.03	-0.25	-0.40
+ Productivity	1.82	1.82	1.82
= Real GDP	3.0	2.5	2.2

NOTE: Projections of the labor force participation rate (LFP) are based on the cost assumptions used in the Social Security Administration's 2007 Trustees Report.

implemented to address climate change. In this case, higher energy taxes would render obsolete some portion of the nation's stock of capital goods, much as the oil price shocks of the 1970s did. Third, U.S. saving rates have been extraordinarily low. In fact, the personal saving rate was negative in 2005 and last year. Unless reversed, negative personal saving rates will limit capital formation and productivity growth.

From a pure growth accounting standpoint, real GDP growth rates are projected to slow to rates last seen from 1973 to 1983 (2.25 percent per year). Whether this occurs will depend on future productivity growth rates and labor force participation rates—including those people who choose to continue working in “retirement.”

ENDNOTES

¹ Economists typically measure economic growth from a long-run perspective as the growth of real GDP per capita.

² Monetary policy plays no role in boosting the economy's long-run rate of growth in this supply-side framework. Instead, central banks can only influence the price level in the long run (that is, the inflation rate).

³ The U.S. Census Bureau formally counts the nation's population every 10 years. Between these counts, the Census Bureau publishes population estimates based on the number of births, the number of deaths and net (total) migration that occur each year. From these estimates, long-run population projections are made based on assumptions like future trends in fertility and death rates and in immigration.

⁴ Briefly, if the participation rate of a specific age group changes, or the share of a certain age group within the total population (i.e., the population weight) changes, then the labor force participation rate can change significantly.

⁵ This would be the lowest rate since 1966, when the participation rate averaged 59.2 percent. The SSA participation rate is based on the projection consistent with the trustees' intermediate cost projections for Social Security benefits.

⁶ See Aaronson et al. (2006) and Juhn and Potter (2006).

⁷ See Anderson and Kliesen (2006).

⁸ See Federal Reserve Bank of Philadelphia (2007). The growth accounting framework uses aggregate productivity, which is based on total GDP; nonfarm business sector output is about 77 percent of total GDP.

⁹ Actual real GDP growth also averaged 3 percent per year from 1990 to 2006.

REFERENCES

Aaronson, Stephanie; Fallick, Bruce; Figura, Andrew; Pingle, Jonathan; and Wascher, William. “The Recent Decline in the Labor Force Participation Rate and Its Implications for Potential Labor Supply.” *Brookings Papers on Economic Activity*, 2006, No. 1, pp. 69-134.

Anderson, Richard G.; and Kliesen, Kevin L. “The 1990s Acceleration in Labor Productivity: Causes and Measurement.” *Federal Reserve Bank of St. Louis Review*, May/June 2006, Vol. 88, No. 3, pp. 181-202.

Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds. *The 2007 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*. Washington, D.C., April 23, 2007.

Federal Reserve Bank of Philadelphia. *Survey of Professional Forecasters*. Feb. 13, 2007. See www.phil.frb.org/files/spf/survq107.html.

Juhn, Chinhui; and Potter, Simon. “Changes in Labor Force Participation in the United States.” *Journal of Economic Perspectives*, Summer 2006, Vol. 20, No. 3, pp. 27-46.